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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/643,159

08/18/2003

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EXAMINER

RUTLAND WALLIS, MICHAEL

ART UNIT

PAPER NUMBER

2836

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/643,159	<b>Applicant(s)</b> BASIR ET AL.	
	<b>Examiner</b> MICHAEL RUTLAND WALLIS	<b>Art Unit</b> 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-12,21,22,24-27 and 33-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-12,21,22 and 24-27 and 33-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/25/08 has been entered.

### ***Response to Arguments***

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -  
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 6, 8-11 and 34-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Witney et al. (U.S. Pat. No. 4,323,829)

With respect to claims 1 and 10-11 and 34-36, Witney teaches a user-activated switch comprising: an electrode (see Fig. 2A items 26 and 24) forming part of a capacitor (capacitance sensors RF, RR, LF and LR) a user contact area (area for finger(s) or palm seen perhaps best in Fig. 1) adjacent the electrode defining a permittivity of the capacitor; a detection circuit (see Fig. 3) measuring a capacitance of the capacitor and activating a switch (state of U4) based upon the measured capacitance, the detection circuit including a bridge circuit (see resistors R1-R4 and capacitors connected to electrode, further see col. 6 lines 33-50) including the electrode, the bridge circuit being balanced (col. 5 lines 5-10) when no user hand is detected near the electrode, the bridge circuit becoming unbalanced (col. 6 lines 15-20) based upon the presence of a user hand near the electrode; and differential amplifier (item U7) determining when the bridge circuit is unbalanced, the differential amplifier and activating and deactivating the switch based upon whether the bridge circuit is balanced.

With respect to claim 2 Witney teaches the electrode may be within the vehicle (wheelchair)

With respect to claim 6 Witney teaches the use of an oscillator (U3) used to excite the bridge circuit.

With respect to claim 8 Witney teaches the electrode is mounted adjacent a user manual contact area.

With respect to claim 9 Witney teaches the electrode is mounted adjacent a user hand grip area (see Fig. 1).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable by Witney et al. (U.S. Pat. No. 4,323,829) Witney teaches the electrode is located on a steering device (item 10) however does embody the steering device as a wheel. Witney teaches (col. 4 lines 5-10) the sensing surfaces to be of nearly any geometric shape. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Witney to use a circular or wheel shaped arrangement of the sensing surfaces in order to allow the user to quickly adapt to the steering system.

Claims 3-4 and 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable by Witney et al. (U.S. Pat. No. 4,323,829) in view of Ladewig (U.S. Pat. No. 3,876,977) Witney teaches the switch is for activating a vehicle device however does not include the use of a horn. Ladewig teaches the use of a proximity switch arrangement for a horn (Fig. 1 and 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Witney to include the use of a switch circuit to activate a vehicle

horn as seen in Ladewig in order to signal to persons or vehicles the approaching of vehicle of Witney.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable by Witney et al. (U.S. Pat. No. 4,323,829) in view of Schulz (U.S. Pat. No. 5,880,538)

With respect to claim 7 Witney teaches capacitor switch however does not teach the use of a rate of change of the capacitance. Schulz teaches (column 2 lines 1-12 the rate of change in the capacitance which is caused by the hands altering of the electric field by changing the permittivity approximate the sensor is monitored to determine if it is within a threshold indicative of a user's hand) measuring a rate of change of the capacitance. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Witney to measure the rate of change of the capacitance in order to reduce a false detection.

Claims 12, 21, 24-27 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable by Schulz (U.S. Pat. No. 5,880,538) in view of Ladewig (U.S. Pat. No. 3,876,977)

With respect to claims 12 Schulz teaches a method for determining a presence (Fig. 1) of a user hand including the steps of: a) measuring a rate of change (column 2 lines 1-12 the rate of change in the capacitance which is caused by the hands altering of the electric field by changing the permittivity approximate the sensor is monitored to determine if it is within a threshold indicative of a user's hand) in permittivity of an area adjacent an electrode caused by the proximity of the user hand; and b) activating a switch (lock/unlock switch for example) based upon the rate of change measure in said

step a). Schulz teaches the capacitive sensor switch may be provided on an object, Schulz provides several examples of uses for the capacitive proximity switch and further points out one skilled in the art should appreciate the system not be limited to the described embodiments (col. 1 lines 45-50 also lines 30-35). Shultz however fails to teach the activation of a vehicle horn as a connected device. Ladewig teaches a vehicle horn that is activated based on a switch signal (Fig. 1 or 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to connect the proximity capacitance switch of Schulz to activate the vehicle horn when a hand is moved toward or approaches the activation area to provide an audible signal for safety which may be quickly activated with little or no mechanical wear to the horn switch.

With respect to claim 24 Schulz teaches an electrode (item 4) mounted on a vehicle (not shown), the electrode forming part of a capacitor, a capacitance of the capacitor changing based upon a presence or absence of a user hand adjacent the electrode; and a detection circuit (Fig. 1) measuring the capacitance of the capacitor and activating the horn based upon the measured capacitance. Schulz does not teach the system is used to control a vehicle horn mounted on a steering wheel. Ladewig teaches a vehicle horn switch comprising an electrode (item 5) on a vehicle steering wheel, the electrode of forming part of a capacitor (i.e. one of the two plates separated by a dielectric), a capacitance of the capacitor changing based upon a presence or absence of a users hand adjacent the electrode; and a detection circuit measuring changes output from the flexible capacitor circuit and activating the horn based upon the detected and measured changes. It would have been obvious to one of ordinary skill in

the art at the time of the invention to use the detection circuit of the Schulz on the horn activation circuitry disclosed in Ladewig in order to increase the life of the horn switch by eliminating mechanical wear.

With respect to claim 25 Schulz teaches a bridge (formed by inputs to the differential amplifier) formed by circuit including the electrode (4), the bridge circuit being balanced (no response at U<sub>A</sub> output terminal see Fig. 2E) when no user hand is detected near the electrode, the bridge circuit becoming unbalanced (high voltage at U<sub>A</sub> output terminal see Fig. 2E) based upon the presence of the user hand near the electrode; and a differential amplifier (components making up the differential amplifier described for example in see col. 3 line 57 – col. 4 line 11) determining when the bridge circuit is unbalanced and activating the vehicle device switch based upon whether the bridge circuit is balanced.

With respect to claim 26 Schulz teaches the capacitor is part of an oscillator (item 8) oscillating at a first frequency (outside the responsive frequencies set by component selection described in col. 3 lines 13-40) when no hand is present adjacent the electrode and at a second frequency (frequency within the upper and lower cutoffs) different from the first frequency when the hand is adjacent the electrode, the detection circuit activating the horn switch based upon the frequency

With respect to claim 27 Schulz teaches the capacitance of the capacitor is changed by a change in permittivity of a medium in the capacitor, the permittivity being changed by the presence or absence of the hand adjacent the electrode.



With respect to claim 33 Schulz teaches the proximity of the user hand alters a frequency (see col. 4 lines 13-40 Schulz describes the setting of lower and upper frequency cutoffs and where the switch is responsive) of an oscillator (item 8), and wherein said step b) further includes the step of activating the switch based upon a rate of change of the capacitance caused by the proximity of the user hand.

Claims 12 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable by Ladewig (U.S. Pat. No. 3,876,977) in view of Schulz (U.S. Pat. No. 5,880,538) Ladewig teaches a method for determining a presence of a user hand including the steps of: a) measuring a change in permittivity of an area adjacent an electrode caused by the proximity of the user hand and activating a switch based upon a change measured in said step a), the switch activating a vehicle horn. Ladewig does not teach the measuring of the rate of change in permittivity. Schulz teaches measuring a rate of change (column 2 lines 1-12 the rate of change in the capacitance which is caused by the hands altering of the electric field by changing the permittivity approximate the sensor is monitored to determine if it is within a threshold indicative of a user's hand) in permittivity of an area adjacent an electrode caused by the proximity of the user hand. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Ladewig to measure the rate of change in order to reduce the possibility of false detection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Rutland-Wallis whose telephone number is 571-272-5921. The examiner can normally be reached on Monday-Thursday 7:30AM-6:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on 571-272-2084. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Michael J Sherry/  
Supervisory Patent Examiner, Art Unit 2836

MRW